

PUBLIC HEALTH FACT SHEET

West Nile Virus Encephalitis

Massachusetts Department of Public Health, 305 South Street, Jamaica Plain, MA 02130

What is West Nile Virus (WNV) Encephalitis?

West Nile virus (WNV) encephalitis is a rare disease caused by a virus. WNV grows in birds, and is transmitted from bird to bird by infected mosquitoes. If mosquitoes infected with the virus bite horses or humans, they can also become sick. The virus that causes WNV encephalitis occurs in Europe, Africa and Asia. It was first identified in the United States in New York during the summer of 1999. Since then, it has spread throughout the eastern half of the U.S. and as far west as Arkansas. It is not known how WNV got to the U.S.

What are the symptoms of WNV Encephalitis?

Most WNV infections do not cause any symptoms. Mild WNV infections cause fever, headache and body aches, often with a skin rash and swollen lymph glands. In a small percentage of people infected by the virus, the disease can be serious, even fatal. More severe infections can cause headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, paralysis and, sometimes, death. Persons older than 50 years of age have a higher risk of developing severe illness.

Is there treatment for WNV Encephalitis?

There is no treatment for WNV infection. Doctors can treat the symptoms of WNV encephalitis. However, approximately 10% of people who become sick enough from the infection to be hospitalized die from it.

How is WNV spread?

WNV is spread only by adult mosquitoes that are infected with the virus. Humans and horses that have WNV infection cannot spread the disease directly to humans. The risk of getting WNV encephalitis is highest from late July through September. There is no evidence that a person can get WNV from handling live or dead infected birds. Still, you should avoid bare-handed contact when handling dead animals, including birds. If you must handle dead birds, use gloves or double plastic bags. If you notice a dead bird in your area, call the Massachusetts Department of Public Health at (866) 627-7968. While most dead birds will not be collected and tested for WNV, keeping track of their locations plays an important role in directing further bird, mosquito and human surveillance activities. The information gathered from these surveillance activities may help to identify areas at increased risk for human WNV disease.

How common is WNV in Massachusetts?

During 2001, three cases of WNV infection, including one death, were identified among residents of Massachusetts. Additionally, WNV has been found in horses, mosquitoes and many species of birds throughout the state. The mosquitoes that carry this virus are common throughout the state, and these mosquitoes are found in the city as well as in the woods and other less populated places. For up-to-date information on West Nile virus in Massachusetts, visit the Massachusetts Department of Public Health's web site at www.state.ma.us/dph.

What can you do to protect yourself?

There is no vaccine for WNV. The best way to protect yourself is to keep mosquitoes from biting you. Follow these steps every summer if you live in or visit an area with mosquitoes:

Avoid outdoor activities between dusk and dawn, if possible, as this is the time of greatest mosquito activity.

- If you must be outdoors when mosquitoes are active, wear a long-sleeved shirt and long pants. Use a mosquito repellent that contains DEET (the chemical N-N-diethyl-meta-toluamide) and follow the directions on the label. DEET can be poisonous if overused. Never use DEET on infants. Avoid using repellents with DEET concentrations above 10-15% for children and with concentrations above 30-35% for adults. Cream, lotion or stick formulas are best for use on skin. Avoid products with high amounts of alcohol because these may be absorbed through the skin.
- Take special care to cover up the arms and legs of children playing outdoors. When you bring a baby outdoors, cover the baby's carriage or playpen with mosquito netting.
- Fix any holes in your screens and make sure they are tightly attached to all your doors and windows.

What can you do to reduce the number of mosquitoes around your home and neighborhood?

To reduce mosquito populations around your home and neighborhood, get rid of any standing water that is available for mosquito breeding. Mosquitoes will breed in any puddle or standing water that lasts for more than four days. Here are some simple steps you can take:

- Dispose of or regularly empty any metal cans, plastic containers, ceramic pots and other water holding containers (including trash cans) on your property.
- Pay special attention to discarded tires that may have collected on your property. Stagnant water in tires is a common place for mosquitoes to breed.
- Drill holes in the bottom of recycling containers that are left outdoors, so that water can drain out.
- Clean clogged roof gutters; remove leaves and debris that may prevent drainage of rainwater.
- Turn over plastic wading pools and wheelbarrows when not in use.
- Do not allow water to stagnate in birdbaths; aerate ornamental ponds or stock them with fish.
- Keep swimming pools clean and properly chlorinated; remove standing water from pool covers.
- Use landscaping to eliminate standing water that collects on your property.

What is Massachusetts doing to protect people from WNV?

The Massachusetts Department of Public Health (MDPH) has had a long-standing program to look for another virus carried by mosquitoes, Eastern Equine Encephalitis virus. Every year from May until the first frost, MDPH field staff collect mosquitoes and bring them to the State Laboratory for testing. Beginning in 2000, MDPH expanded this mosquito surveillance program to also look for WNV throughout Massachusetts. Under this expanded program, more locations are being sampled and more mosquitoes are being examined. Also, a system is in place to test dead birds to look for the presence of WNV. The State Laboratory can also test for WNV infection in horses and humans. If WNV is detected in Massachusetts, MDPH will alert local boards of health, hospitals, and people who live in the affected area. A statewide surveillance and response plan has been developed to assist local communities in preparing for and responding to the risk of WNV.

To report dead birds this season: Please call MDPH toll free at **1-866-MASS-WNV** (627-7968)

For more information:

- **Massachusetts Department of Public Health**
Division of Epidemiology and Immunization **(617) 983-6800**
(for questions about WNV and consultations for health care providers and hospitals on WNV)
- **Bureau of Environmental Health Assessment** **(617) 624-5757**
(for questions about health effects of pesticides)
- **Massachusetts Department of Food and Agriculture**
State Reclamation and Mosquito Control Board **(617) 626-1781**
(for questions about regional mosquito control programs)
- **Your local board of health** (listed in the telephone directory under "government")